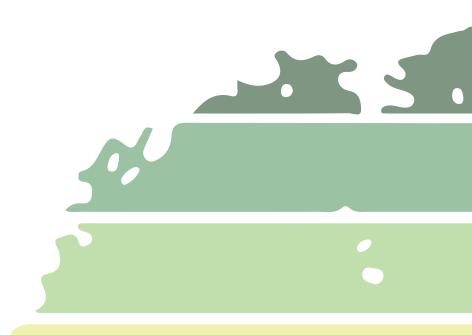


Energy Strategy Report



Project:

Flat 2,3 & 4, 45 Westwood Road, Southampton, SO17 1DH

Client:

Clydesdale Group

Project Reference:

J02947

Date:

27th March 2024



info@energyreport.co.uk



Flats 2,3 & 4, 45 Westwood Road, Southampton, SO17 1DH

This report identifies a solution in order to comply with Planning Condition 02 of planning application 45 Westwood Road, Southampton, Southampton, SO19 7JP.

02. Energy Efficiency - Conversion (Pre-Commencement Condition)

Confirmation of the energy strategy, that will achieve a reduction in CO2 emissions of at least 15% or a minimum Energy Efficiency Rating of 70 post refurbishment (an EPC rating C), must be submitted and approved in writing by the Local Planning Authority prior to the commencement of the development hereby granted consent. Measures that meet the agreed specifications must be installed and rendered fully operational prior to the first occupation of the development hereby granted consent and retained thereafter.

Reason:: To ensure the development has minimised its overall demand for resources and to demonstrate compliance with policy CS20 of the Local Development Framework Core Strategy Development Plan Document Adopted Version (January 2010).

SAP Ratings have been calculated as instructed in accordance with Approved Document L1 2021

It is proposed that to meet the requirements of the above condition the proposed flats are built to the attached specification.

The attached specification identifies the proposed route to meet the minimum Energy Efficiency Rating of 70 (EPC C)

Further to this Predicted Energy Assessment documents are attached.

Construction Specification for Part L 2021 Compliance - Conversion / Extension

Project : 45 Westwood Road, Southampton

Client: Clydesdale Group

Job no. J02947

Revison 1

Predicted EPC rating

Date 27/03/2024

Building regs version L1 ADL 2021 - Conversion / Extension



		U va	alue
Item	Specification	Calculated	Min requiremen
Existing Walls	102.5mm Brick, 50mm Air/space, 100mm Block, 52.5mm PIR insulated plaster board	0.32	0.55
Existing Roof	100mm +200mm Mineral wool insulation	0.14	0.15
Ground Floor	Suspended timber floor no insulation added	2.00	0.70
Glazing	Glazed units	1.30	1.40
Bifold doors	Glazed units	1.30	1.40
Electricity Tariff	Single		
Ventilation	Local extracts only		
Heating	Worcester greenstar 8000 life Combi boiler or similar model		
Controls	Programmer,TRV and bypass		
Hot water	From boiler		
Air Leakage test at 50Pa	-		
Renewables			
% reduction in DER			
		†	

SAP Ratings have been calculated as instructed in accordance with Approved Document ADL 2021

Flat 2= 72C Flat 3=70C Flat 4=71C

Predicted Energy Assessment



Flat 2, 45, Westwood Road, Southampton, SO17 1DH

Dwelling type:
Date of assessment:
Produced by:
Total floor area:
DRRN:

Flat, Mid-Terrace 27/03/2024 Stephen Harrison 44.3 m²

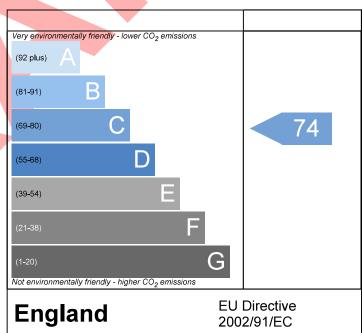
This document is a Predicted Energy Assessment for properties marketed when they are incomplete. It includes a predicted energy rating which might not represent the final energy rating of the property on completion. Once the property is completed, this rating will be updated and an official Energy Performance Certificate will be created for the property. This will include more detailed information about the energy performance of the completed property.

The energy performance has been assessed using the Government approved SAP 10 methodology and is rated in terms of the energy use per square meter of floor area; the energy efficiency is based on fuel costs and the environmental impact is based on carbon dioxide (CO2) emissions.

Very energy efficient - lower running costs (92 plus) A (81-91) B (69-80) C (55-68) (39-54) E (1-20) G Not energy efficient - higher running costs England EU Directive 2002/91/EC

The energy efficiency rating is a measure of the overall efficiency of a home. The higher the rating the more energy efficient the home is and the lower the fuel bills are likely to be.

Environmental Impact (CO₂) Rating



The environmental impact rating is a measure of a home's impact on the environment in terms of carbon dioxide (CO_2) emissions. The higher the rating the less impact it has on the environment.

SAP 10 Online 2.13.11 Page 1 of 1

Predicted Energy Assessment



Flat 3, 45, Westwood Road, Southampton, SO17 1DH

Dwelling type:
Date of assessment:
Produced by:
Total floor area:
DRRN:

Flat, Mid-Terrace 27/03/2024 Stephen Harrison 50.2 m²

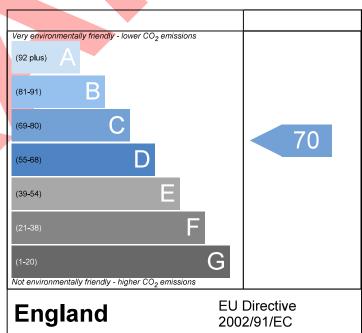
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Very energy efficient - lower running costs (92 plus) A (81-91) B (69-80) C (55-68) (39-54) E (1-20) G Not energy efficient - higher running costs England EU Directive 2002/91/EC

The energy efficiency rating is a measure of the overall efficiency of a home. The higher the rating the more energy efficient the home is and the lower the fuel bills are likely to be.

Environmental Impact (CO₂) Rating



The environmental impact rating is a measure of a home's impact on the environment in terms of carbon dioxide (CO_2) emissions. The higher the rating the less impact it has on the environment.

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Predicted Energy Assessment



Flat 4, 45, Westwood Road, Southampton, SO17 1DH

Dwelling type:
Date of assessment:
Produced by:
Total floor area:
DRRN:

Flat, Mid-Terrace 27/03/2024 Stephen Harrison 70.5 m²

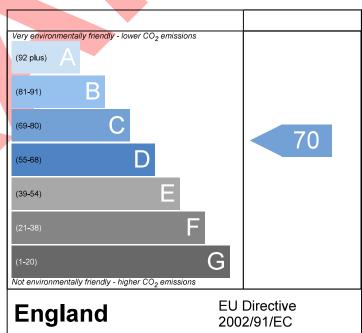
This document is a Predicted Energy Assessment for properties marketed when they are incomplete. It includes a predicted energy rating which might not represent the final energy rating of the property on completion. Once the property is completed, this rating will be updated and an official Energy Performance Certificate will be created for the property. This will include more detailed information about the energy performance of the completed property.

The energy performance has been assessed using the Government approved SAP 10 methodology and is rated in terms of the energy use per square meter of floor area; the energy efficiency is based on fuel costs and the environmental impact is based on carbon dioxide (CO2) emissions.

Very energy efficient - lower running costs (92 plus) A (81-91) B (69-80) C (55-68) (39-54) E (1-20) G Not energy efficient - higher running costs England EU Directive 2002/91/EC

The energy efficiency rating is a measure of the overall efficiency of a home. The higher the rating the more energy efficient the home is and the lower the fuel bills are likely to be.

Environmental Impact (CO₂) Rating



The environmental impact rating is a measure of a home's impact on the environment in terms of carbon dioxide (CO₂) emissions. The higher the rating the less impact it has on the environment.

SAP 10 Online 2.13.11 Page 1 of 1



Property Reference	J0294	17 Flat 2						Issuec	l on Dat	te	26/03/20	124
Assessment Reference					Prop Ty	/pe Ref	F	lat				
Property		. 45. Westwood Ro	ad, Southampton, SC)17 1DH								
		, .,										
SAP Rating			72 C	DER					TER			
Environmental			74 C	% DER	< TER						N/A	
CO ₂ Emissions (t/year)			1.53	DFEE					TFEE			
Compliance Check			See BREL		E < TFEE							
% DPER < TPER				DPER					TPER			
Assessor Details	Mr. Stephe	en Harrison							Assess	or ID	W557	'- 0001
Client	Clydesdale	e , Clydesdale Grou	ipe Limited									
SUMMARY FOR INP	JT DATA FO	R: Conversion	(As Designed)									
Orientation			Southeast									
Property Tenture			1					=				
Transaction Type			6									
Terrain Type			Suburban					_				
1.0 Property Type			Flat, Mid-Terrace									
Position of Flat			Ground-floor flat									
Which Floor			0									
2.0 Number of Storeys			1									
3.0 Date Built			2024					=				
4.0 Sheltered Sides			3					=				
5.0 Sunlight/Shade			Average or unknow	n				=				
6.0 Thermal Mass Param	eter		Precise calculation									
7.0 Electricity Tariff			Standard					$\overline{}$				
Smart electricity meter	fitted		Yes					=				
Smart gas meter fitted	miles.		Yes					=				
7.0 Measurements												
7.0 Weasurements			0		Loss Perin	neter	Inte		or Area	Α		orey Heigh
			Ground flo	or:	11.83 m			44.30	m-		2.2	.0 m
8.0 Living Area			19.60					n	1 ²			
9.0 External Walls	_								O. 1.			
Description External Wall 1	Type Cavity Wall	Construction Other		U-Value (W/m²K) 0.32	(kJ/m²K) Are		1²) F	elter Res 1.00	Shelte None			rea Calculatio Type alculate Wall Ar
9.1 Party Walls	Cavity Wall	Other		0.02	0.00 20	,,,,,,	.40		140116		3.30 0	ilculate vvali Ai
Description	Туре	Construc	tion				alue l		Area		elter	Shelter
Party Wall 1	Solid Wal	l Other					m²K) (k 00	J/m²K) 0.00	(m²) 57.03		es	None
10.1 Party Ceilings												
Description		Construct	ion								Kappa	
Party Ceiling 1		Other									(kJ/m²ľ 0.00	44.30
11.0 Heat Loss Floors												
Description	Туре	Storey Index	Construction			U-Valu (W/m²k		Shelte			Factor (k.	appa Area (n //m²K)
Heatloss Floor 1	Ground Floor - Timber	Lowest occupied	Other			2.00		No	ne		0.00).00 44.30
12.0 Opening Types												
Description	Data Source	се Туре	Glazing			lazing Gap	Filling Type	ı G-v	alue	Frame Type	Fram	
Opening Type 1	Manufactur	er Window	Double Low-E	E Soft 0.05		15	71.	0.	63	, r	0.70	
13.0 Openings		.	1 4'			0				- 21		D:4-1
Name	Opening		Location			Orientat North W			Area (n 6.16	n²)		Pitch
Opening Opening	Opening Opening		External Wall 1 External Wall 1			South W			3.80			

SAP 10 Online 2.13.5 Page 1 of 3



14.0 Conservatory	None		7	
15.0 Draught Proofing	100			
16.0 Draught Lobby	No		j	
17.0 Thermal Bridging	Default			
- Y-value	0.20		W/m²K	
			<u>-</u>	
18.0 Pressure Testing	No		_ ¬	
Test Method	Blower Door			
19.0 Mechanical Ventilation				
Mechanical Ventilation Mechanical Ventilation System Present	No		7	
20.0 Fans, Open Fireplaces, Flues				
21.0 Fixed Cooling System	No			
22.0 Lighting No Fixed Lighting	No		7	
	Name Efficacy Lighting 1 100.00	Power 5	Capacity 500	Count 4
24.0 Main Heating 1	Database			
Percentage of Heat	100.00		%	
Database Ref. No.	18616			
Fuel Type	Mains gas			
In Winter	83.80			
In Summer	88.20			
Model Name	Greenstar 8000 Life			
Manufacturer	Bosch Thermotechnology			
System Type	Combi boiler			
Controls SAP Code	2107			
Delayed Start Stat	Yes			
Flue Type	Balanced			
Fan Assisted Flue	Yes			
Is MHS Pumped	Pump in heated space			
Heating Pump Age	2013 or later			
Heat Emitter	Radiators			
Flow Temperature	Unknown			
Boiler Interlock	Yes			
Combi boiler type	Standard Combi			
Combi keep hot type	None			
25.0 Main Heating 2	None			
26.0 Heat Networks	None]	
28.0 Water Heating		<u> </u>	7	
Water Heating	Main Heating 1		_	
SAP Code	901		_	
Flue Gas Heat Recovery System	No		_	
Waste Water Heat Recovery Instantaneous System 1	No		_	
Waste Water Heat Recovery Instantaneous System 2	No			
Waste Water Heat Recovery Storage System	No			
Solar Panel	No			

SAP 10 Online 2.13.5 Page 2 of 3



Water use <= 125 litres/person/o	lay	Yes				
Cold Water Source		From mains				
Bath Count		0				
28.1 Showers						
Description	Shower Type	e	Flow Rate [l/min]	Rated Power [kW]	Connected	Connected To
28.3 Waste Water Heat Recovery S	System					
29.0 Hot Water Cylinder		None				
In Airing Cupboard		No				
Recommendations Lower cost measures None Further measures to achieve e	•	ypical Cost	Typical savings per yea	ar SAP	Ratings after rating 0 0 0	er improvement Environmental Impact 0 0 0

SAP 10 Online 2.13.5 Page 3 of 3



	0020	7 Flat 3							ed on Dat		26/03/20	124	
Assessment Reference	Base				Prop	Type F	Ref	Flat					
Property	Flat 3	, 45, Westwood Roa	ad, Southampton, S	O17 1DH									
SAP Rating			70 C	DER					TER				
Environmental			70 C	% DER	< TFR						N/A		
CO ₂ Emissions (t/year)			1.86	DFEE	· 1210				TFEE		19//		
Compliance Check			See BREL	% DFEE	Z TEEE								
% DPER < TPER			See BREL	DPER	. \				TPER				
// DFER > IFER				DELK					IFLK				
Assessor Details	Mr. Stephe	n Harrison							Assess	or ID	W55	7-0001	1
Client	Clydesdale	e , Clydesdale Grou	pe Limited										
SUMMARY FOR INPL	JT DATA FOI	R: Conversion	(As Designed)										
Orientation			Northeast										
Property Tenture			1										
Transaction Type			6										
Terrain Type			Suburban										
1.0 Property Type			Flat, Mid-Terrace										
Position of Flat			Ground-floor flat					\equiv					
Which Floor			0										
2.0 Number of Storeys			1										
3.0 Date Built			2024										
4.0 Sheltered Sides			2										
5.0 Sunlight/Shade	Average or unknow	ın.											
6.0 Thermal Mass Parameter			Precise calculation										
7.0 Electricity Tariff			Standard										
Smart electricity meter t	fitted		Yes										
Smart gas meter fitted			Yes										
7.0 Measurements				∐oat I	Loss Per	rimoto	r In	tornal El	oor Area	Δ.,,	erage S	orov	Hoigh
			Ground flo		20.91 m		, ,,,	50.20		AV		10 m	rieigii
8.0 Living Area			30.05						m²				
9.0 External Walls													
Description	Туре	Construction		U-Value (W/m²K) (Kappa (kJ/m²K) A		Nett Area (m²)	Shelter Res	Shelte	r Op	enings A		Iculatio pe
External Wall 1	Cavity Wall	Other		0.32		50.18	33.92	0.00	None	•	16.26 Ca	alculate	Wall Ar
9.1 Party Walls	_												
Description	Type	Construc	tion				U-Value (W/m ² K)			Shelt Res		Shelt	ter
Party Wall 1	Solid Wall	Other					0.00	0.00	26.88			Non	ie
10.0 External Roofs	T	0			(I-1) 15		0		O!- !'	0 b . !!	0-1	-	
Description	Туре	Construction			Value Ka /m²K)(kJ			Area	Shelter : Code		Calcula Type		pening
External Roof 1	External Pla	ne Plasterboard,	insulated at ceiling le	evel 0).14 9	0.00	14.82	(m²) 14.82	None	0.00	Enter Gi Area		0.00
10.1 Party Ceilings													
Description		Constructi	on								Kappa		ea (m
Party Ceiling 1		Other									(kJ/m²ł 0.00		35.38
11.0 Heat Loss Floors Description	Туре	Storey Index	Construction				Value	Shelf	er Code				Area (r
Heatloss Floor 1	Ground Floor -	Lowest occupied	Other				//m²K) 2.00	١	lone			I/m²K) 0.00	50.20

SAP 10 Online 2.13.5 Page 1 of 3



Manufacturer Opening Typ Opening Type Opening Type	e 1	Double Low-E S Location External Wall 1 External Wall 1 None 100 No Default 0.20 No Blower Door	oft 0.05	Orienta South V South E	/est	0.63 Area 5.0 11.2	0	0.70	1.30 tch
Opening Type	e 1	External Wall 1 External Wall 1 None 100 No Default 0.20		South V	/est	5.0 11.2	0	Pit	tch
Opening Type	e 1	External Wall 1 External Wall 1 None 100 No Default 0.20		South V	/est	5.0 11.2	0		
	e 1	None 100 No Default 0.20		South E	ast		<u></u>		
n System Prese		100 No Default 0.20 No							
n System Prese		No Default 0.20 No							
n System Prese		Default 0.20 No							
n System Prese		0.20 No							
n System Prese		No							
n System Prese						W/m²K			
n System Prese		Blower Door				7			
n System Prese									
n System Prese									
System Prese									
	nt	No							
lues									
		No							
		Name	Efficacy		ver	_ Capa	city		ount
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		None							
		None							
		None							
rce Fuel Ty	pe Heating	Use Efficiency Perc	entage Of H Heat			ectrical	Fuel Facto	or Effici	iency typ
	lues	lues	No Name Lighting 1 Database 100.00 18616 Mains gas 83.80 88.20 Greenstar 8000 Life Bosch Thermotechnol Combi boiler 2107 Yes Balanced Yes Pump in heated space 2013 or later Radiators Unknown Yes Standard Combi None None	No No Name Efficacy Lighting 1 100.00 Database 100.00 18616 Mains gas 83.80 88.20 Greenstar 8000 Life Bosch Thermotechnology Combi boiler 2107 Yes Balanced Yes Pump in heated space 2013 or later Radiators Unknown Yes Standard Combi None None None None	No	No	No	No	No

SAP 10 Online 2.13.5 Page 2 of 3

Heat source 3



Ratings after improvement

Heat source 4 Heat source 5 28.0 Water Heating Water Heating Main Heating 1 SAP Code 901 Flue Gas Heat Recovery System No No Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2 No Waste Water Heat Recovery Storage System No Solar Panel Water use <= 125 litres/person/day Yes From mains Cold Water Source 0 Bath Count 28.1 Showers Description **Shower Type** Flow Rate Rated Power Connected Connected To [l/min] 28.3 Waste Water Heat Recovery System None 29.0 Hot Water Cylinder No In Airing Cupboard Recommendations Lower cost measures None Further measures to achieve even higher standards

SAP rating **Environmental Impact** 0 0 000

Typical savings per year

Typical Cost

SAP 10 Online 2.13.5 Page 3 of 3



Property Reference	J02947 I	Flat 4				Į:	ssued on Da	ite	26/03/2024	1
Assessment Reference	Base				Prop Type Ref	Fla	t			
Property	Flat 4, 4	5, Westwood Ro	ad, Southampton, S	O17 1DH						
SAP Rating			71 C	DER			TER			
Environmental			70 C	% DER <	TER				N/A	
CO ₂ Emissions (t/year)			2.22	DFEE			TFEE			
Compliance Check			See BREL	% DFEE	< TFEE		_			
% DPER < TPER				DPER			TPER			
Assessor Details	Mr. Stephen I	Harrison					Assess	or ID	W557-0	0001
Client		Clydesdale Grou	ipe Limited							
SUMMARY FOR INP	UT DATA FOR:	Conversion	(As Designed)							
Orientation			Southwest				7			
Property Tenture			1							
Transaction Type			6				Ħ			
Terrain Type			Suburban				Ħ			
1.0 Property Type			Flat, Mid-Terrace				i			
Position of Flat			Ground-floor flat				Ħ			
Which Floor			0				Ħ			
2.0 Number of Storeys			1				=			
3.0 Date Built			2024				\exists			
4.0 Sheltered Sides			2				╡			
5.0 Sunlight/Shade			Average or unknown	wn			╡			
6.0 Thermal Mass Param	eter		Precise calculation							
7.0 Electricity Tariff			Standard							
Smart electricity meter	fitted		Yes							
Smart gas meter fitted			Yes				=			
7.0 Measurements							_			
			Ground fl		oss Perimeter 18.87 m		al Floor Are 0.50 m²	a Av	erage Stor 2.40	
8.0 Living Area			23.19				m²			
9.0 External Walls	_									
Description	••	Construction			kJ/m²K) Area(m²)	t Area Shel	3	•	penings Are 15.44 Calcu	Type
9.1 Party Walls	Cavity Wall (Other		0.32	0.00 45.29 2	9.85 0.0) Non	-	13.44 Calcu	uate VVall Af6
Description	Type	Construc	tion			Value Ka		s Shelt	er S	helter
Party Wall 1	Solid Wall	Other			(W	/m²K) (kJ				None
10.1 Party Ceilings										
Description		Construct	ion						Kappa (kJ/m²K)	Area (m²
Party Ceiling 1		Other							0.00	70.50
11.0 Heat Loss Floors Description	Туре	Storey Index	Construction		U-Vai		Shelter Code			pa Area(m
Heatloss Floor 2	Ground Floor - Timber	Lowest occupied	Other		(W/m 2.00	: K)	None		octor (kJ/m 0.00 0.0	²K)
12.0 Opening Types										
Description	Data Source	Туре	Glazing		Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m²K
Opening Type 1	Manufacturer	Window	Double Low	-E Soft 0.05		7 IV =	0.63	7 1	0.70	1.30
13.0 Openings										
Name	Opening Ty	mo	Location		Orient	ation	Area (m2\	n:	itch

SAP 10 Online 2.13.5 Page 1 of 3



14.0 Conservatory	None]
15.0 Draught Proofing	100		%
16.0 Draught Lobby	No]
17.0 Thermal Bridging	Default]
- Y-value	0.20		W/m²K
			<u>* </u>
18.0 Pressure Testing	No Burney]
Test Method	Blower Door		
19.0 Mechanical Ventilation			
Mechanical Ventilation Mechanical Ventilation System Present	No]
20.0 Fans, Open Fireplaces, Flues			
21.0 Fixed Cooling System	No]
22.0 Lighting			-
No Fixed Lighting	No]
	Name Efficacy Lighting 1 100.00	Power 5	Capacity Count 500 6
24.0 Main Heating 1	Database]
Percentage of Heat	100.00		%
Database Ref. No.	18616]
Fuel Type	Mains gas]
In Winter	83.80]
In Summer	88.20]
Model Name	Greenstar 8000 Life]
Manufacturer	Bosch Thermotechnology]
System Type	Combi boiler]
Controls SAP Code	2107]
Delayed Start Stat	Yes]
Flue Type	Balanced]
Fan Assisted Flue	Yes]
Is MHS Pumped	Pump in heated space]
Heating Pump Age	2013 or later]
Heat Emitter	Radiators]
Flow Temperature	Unknown]
Boiler Interlock	Yes]
Combi boiler type	Standard Combi]
Combi keep hot type	None]
25.0 Main Heating 2	None]
26.0 Heat Networks	None]
28.0 Water Heating			1
Water Heating	Main Heating 1		
SAP Code	901		
Flue Gas Heat Recovery System	No		
Waste Water Heat Recovery Instantaneous System 1	No		
Waste Water Heat Recovery Instantaneous System 2	No		
Waste Water Heat Recovery Storage System	No		
Solar Panel	No]

SAP 10 Online 2.13.5 Page 2 of 3



Water use <= 125 litres/person/day		Yes				
Cold Water Source		From mains				
Bath Count		0				
28.1 Showers						
Description	Shower Type	e	Flow Rate [l/min]	Rated Power [kW]	Connected	Connected To
28.3 Waste Water Heat Recovery Syste	em					
29.0 Hot Water Cylinder		None				
In Airing Cupboard		No				
Recommendations Lower cost measures None Further measures to achieve even	•	ypical Cost	Typical savings per yea		Ratings after rating 0 0 0	er improvement Environmental Impact 0 0 0

SAP 10 Online 2.13.5 Page 3 of 3